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## SECRET Office Memorandum . United states government

: Chief, Engineering Division, OC

0&T 56- 5-96

FROM : Chief, Operations and Training Division, OC

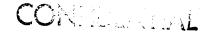
SUBJECT: Operational Test Results on the TA-1

REF

: (A) 0&T 56-041 (B) 0&T 55-797

- 1. A number of operational tests have been performed on the TA-1. While the unit functioned fairly well, we feel that with certain modifications it could be made a more valuable item of communications equipment.
  - Specifically the modifications we desire are the following:
  - a. A plastic shield around the tank coil. The positioning of the antenna impedance matching switch is such that the fingers almost invariably touch the tank coil and thus across Bi.
  - b. An additional holding pin on the antenna connecting block. This block swivels in its socket and gets in the way when tuning the equipment.
  - c. A transmit-receive switch in place of the present breakin system employed. While we normally prefer breakin operation; we believe better performance can be obtained from the unit, both in the transmit and receive positions, if the earphone can be switched directly to the grid of the final tube in the receive position and out of the circuit entirely in the transmit position instead of being across the oscillator grid circuit. The present breakin system does not permit modification for the use of an external key; we desire that the unit be modified to permit the use of an external key.
  - d. The audio output of the present model is insufficient. The possibility exists that going to a transmit-receive switch as opposed to breakin operation would also improve this condition. Further investigation of methods to increase the audio output is desired in any case.





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0&T 56- 596 Page 2

<ul> <li>e. Further investigation of the antenna output network is</li> </ul>	
also desired. The unit was tested with a variety of antennas	
on a number of frequencies but gave loading indication on the	
lamp only at frequencies A check on this	25 <b>X</b> 1
using a 51-J receiver and the db meter incorporated in the	
receiver tends to show that the indications given by the lamp	
were correct. We were apparently radiating very little power	
at any frequence	25 <b>X</b> 1
•	
3. The prototype unit is returned with this memorandum. The	
BFO is inoperative due to a defective transistor. This was determined	
using the method given in the TA-1 instruction book. After the modi-	
fications requested have been made, we request that the unit be	
returned for further operational tests. If further information is	
desired contact	25 <b>X</b> 1
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	25 <b>X</b> 1
w/att	
w/ a.u.u	

## PROJECT INITIATION FORM LABORATORY

PROJECT TITLE: Modification of TA-1		
DATE DIRECTIVE RECEIVED: 26 October 1956	NOMENCIATURE: TA-1	
DATE WORK STARTED ON PROJECT: 2 Nov. 1956	DATE REQUIRED:	
PROJECT NUMBER: 2514-1	REPORT CLASSIFICATION:	
EQUIPMENT CLASSIFICATION: Unclassified	AUTHORITY: 25)	X.
SOURCE OF REQUEST: OC-0&T Memo 56-596 dated	. 22 October 1956	
LIAISON CONTACT:	QUANTITY REQUIRED: One 25)	X.
in Indiana		
TYPE OF EVALUATION:	ASSIGNED TO 25)	X.
DATE SUSPENDED OR CANCELLED:		
DESCRIPTION OF PROJECT:		
Modify the Transmitter Adaptor, TA-1, in	accordance with the following items:	
<ul> <li>(b) Install an additional holding pin to eliminate the swivel in its soc</li> <li>(c) Install a transmit-receive switch this switch in place of the presen</li> <li>(d) Increase audio output level.</li> <li>(e) Investigate transmitter tank circu view toward increasing its power of an increase in size of the unit is before proceeding.</li> <li>(f) Repair transistor BFO.</li> </ul>	Modify circuits by the use of at break-in system.  it and output network with a cutput If 25	X <sup>,</sup>
PROJECT FOLDER FILED: Roce #		
Drawer #	25X	1
Man-Hours Expended: Mechanical	SIGNED	
Electrical	DATE 31 October 1956	
TA-1-out 28 Jehu7	CCILILINIAL	